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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/780,673	02/19/2004	Masahiro Kawai	Q79857	1993

23373 7590 11/02/2004

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EXAMINER

MACK, COREY D

ART UNIT	PAPER NUMBER
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2855

DATE MAILED: 11/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

AM

Office Action Summary	Application No.	Applicant(s)	
	10/780,673	KAWAI, MASAHIRO	
	Examiner	Art Unit	
	Corey D. Mack	2855	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) 6-8 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>2/19/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-5, drawn to a flow rate sensor, classified in class 73, subclass 204.26.
 - II. Claims 6-8, drawn to method of manufacturing a flow rate sensor, classified in class 29, subclass 592.1.
2. The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions are a flow rate sensor and a method of manufacturing a flow rate sensor. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.
3. Because these inventions are distinct for the reasons given above and the search required for Group I is not required for Group II, restriction for examination purposes as indicated is proper.
4. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

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5. During a telephone conversation with Alan J. Kasper on 12 a provisional election was made without traverse to prosecute the invention of Group I, claims 1-5. Affirmation of this election must be made by applicant in replying to this Office action. Claims 6-8 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ang, et al. (US 5,056,362) in view of Genova, et al. (US 6,032,527).

A. With respect to Claims 1 and 4, Ang discloses a mass flow sensor comprising: a flat base material (silicon); a cavity 24 formed so as to pass through the base material from a rear surface to a front surface (See Fig. 2); an electrically-insulating film 12 formed so as to be positioned in a common plane with the front surface of the base material and to cover an aperture of the cavity on a front surface side of the base material; and, a heating resistor portion composed of a thermosensitive resistor film 14 formed on a portion of the electrically-insulating film formed at a position of the aperture of the cavity. Ang does not disclose that the heating resistor portion is formed from a rear surface side of the base material at the cavity. However, Genova discloses an air flow sensor comprising heating resistor portions 26, 28 composed of a thermosensitive resistor film 30, 32 from a rear surface side of the base material to enable backside connection in

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order to improve sensitivity (column 4, line 59 – column 5, line 15; column 5, line 66 – column 6, line 20). Therefore, at the time the invention was made, it would have been obvious to one of ordinary skill in the art to include in Ang, a backside connection in order to improve sensitivity.

B. With respect to Claim 2, Ang discloses a protective film 16 formed so as to cover the front surface of the base material (silicone) and an exposed surface of the electrically-insulating film 12 exposed through the aperture of the cavity 24 on the front surface side of the base material.

C. With respect to Claims 3 and 5, Genova discloses a leader pattern 30, 32 constituted by a portion of the thermosensitive resistor film 30, 32 constituting the heating resistor portion extending outward from the heating resistor portion along a wall surface of the cavity onto the rear surface of the base material.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Corey D. Mack whose telephone number is (571) 272-2181. The examiner can normally be reached on M-F, 8:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Lefkowitz can be reached on (571) 272-2180. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.


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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CDM

Corey D. Mack, Esq.
Patent Examiner
Art Unit 2855

October 25, 2004


EDWARD LEEKOWITZ
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800